

## CLAIMS

We claim:

- Sub B1/
1. An airway adapter comprising:
    - a first end section for connecting to an endotracheal tube adapter having an inner bore, said first end section having a passage formed therein;
    - a second end section for connecting to a ventilating tube connector, said second end section being in fluid communication with said first end section;
    - a sampling port intermediate said end sections in fluid communication with said first end section; and
    - a tubular insert with an internal bore, which slides axially in said passage.
  2. An airway adapter according to claim 1 and wherein the internal diameter of said internal bore of said insert gradually increases towards an end of said insert near said sampling port, such that said internal diameter of said internal bore becomes essentially equal to the internal diameter of said passage.
  3. An airway adapter according to claim 1 and wherein said insert has a projection adapted to abut against a portion of said first said end section, which provides an axial motion limit into said passage.
  4. An airway adapter according to claim 3 and wherein said projection comprises a lip on the external wall of said insert.
  5. An airway adapter according to claim 1 and wherein an outer wall of said insert has a surface profile such that the friction between said insert and said passage prevents said insert from sliding freely within said passage.

6. An airway adapter according to claim 1 and wherein said internal bore of said insert at an end of said insert distant from said sampling port, has an internal diameter essentially equal to the internal diameter of said inner bore of said endotracheal tube adapter, thereby providing a virtually smooth-walled passage from said inner bore of said endotracheal tube adapter to said internal bore of said insert.

7. An airway adapter according to claim 6 and wherein said end of said insert distant from said sampling port abuts against said end of said inner bore of said endotracheal tube passage, thereby resulting in virtual elimination of void volume between said inner bore of said endotracheal tube adapter and said internal bore of said insert.

8. An airway adapter according to claim 6 and wherein said virtually smooth-walled passage is operative to allow a breath waveform to pass essentially without affecting its waveform.

9. An airway adapter according to claim 7 and wherein said virtual elimination of void volume is operative to allow a breath waveform to pass essentially without affecting its waveform.

10. An airway adapter according to claim 7 and wherein said virtual elimination of void volume between said inner bore of said endotracheal tube adapter and said internal bore of said insert is effective independently of the relative position in which said endotracheal tube adapter and said airway adapter are mated.

11. An airway adapter according to claim 1 and wherein said sampling port has openings located radially distant from the walls of said passage.

12. An airway adapter comprising:

a first end section for connecting to an endotracheal tube adapter having an inner bore, said first end section having a passage formed therein, said passage having an inner bore and an outer wall;

a second end section for connecting to a ventilating tube connector, said second end section being in fluid communication with said first end section;

a sampling port intermediate said end sections in fluid communication with said first end section; and

a tubular sleeve with an internal bore, which slides axially on said outer wall of said passage.

13. An airway adapter according to claim 12 and also comprising a spring operative to push said sleeve axially in a direction away from said sampling port.

Sub 92  
14. An airway adapter according to either of claims 12 and 13, and wherein an internal diameter of said passage increases towards an end of said passage near said sampling port.

15. An airway adapter according to either of claims 12 and 13, and wherein said inner bore of said passage has an internal diameter essentially equal to the internal diameter of said inner bore of said endotracheal tube adapter, thereby providing an approximately smooth-walled transition from said inner bore of said endotracheal tube adapter to said inner bore of said passage.

16. An airway adapter according to either of claims 12 and 13, and wherein said end of said sleeve distant from said sampling port abuts against said end of said inner bore of said endotracheal tube passage, thereby resulting in virtual elimination of void volume between said inner bore of said endotracheal tube adapter and said internal bore of said sleeve.

17. An airway adapter according to claim 15 and wherein said virtually smooth-walled passage is operative to allow a breath waveform to pass essentially without affecting its waveform.
18. An airway adapter according to claim 16 and wherein said virtual elimination of void volume is operative to allow a breath waveform to pass essentially without affecting its waveform.
19. An airway adapter according to claim 16 and wherein said virtual elimination of void volume between said inner bore of said endotracheal tube adapter and said internal bore of said sleeve is effective independently of the relative position in which said endotracheal tube adapter and said airway adapter are mated.
20. <sup>20.13</sup> An airway adapter according to either of claims 12 and 13, and wherein said sampling port has openings located radially distant from the walls of said passage.
21. An airway adapter according to any of the previous claims and wherein an end of said sleeve distant from said sampling port is constructed of a pliant material.
22. An airway adapter according to any of the previous claims and operative to nullify the effects of differing internal diameters and internal lengths which are used in endotracheal tube adapters.

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Sub 13